IN THE CLAIMS:

Please amend the claims as follows:

Claim 1 (Original): A laser beam machining method comprising a step of:

irradiating laser light to a machining target while converging the light to the inside of the machining target, thereby forming a treated area based on multiphoton absorption in the machining target along a planned cutting line of the machining target and form a minute cavity at a predetermined position in connection with the treated area in the machining target.

Claim 2 (Original): The laser beam machining method according to Claim 1, further comprising a step of setting the planned cutting line.

Claim 3 (Original): A laser beam machining method comprising:

a step in which setting a planned cutting line of a machining target; and

a step in which irradiating laser light to the machining target while converging the light to the inside of the machining target, thereby forming a treated area based on multiphoton absorption in the machining target along the planned cutting line and form a minute cavity at a predetermined position in connection with the treated area in the machining target.

Claim 4 (Previously Presented): The laser beam machining method according to Claim 1, wherein the machining target is a semiconductor substrate, and the treated area is a molten processed area.

Claim 5 (Previously Presented): The laser beam machining method according to Claim 1, wherein the machining target is a semiconductor substrate, and the laser light is a pulse laser light which pulse width is set to 500 nsec or less.

Claim 6 (Previously Presented): The laser beam machining method according to Claim 1, wherein the machining target is a semiconductor substrate, and the laser light is a pulse laser light which pulse pitch is set to 1.00 μm to 7.00 μm.

Claim 7 (Previously Presented): The laser beam machining method according to Claim 1, wherein the minute cavities are formed along the planned cutting line, each of the minute cavities are separated.

Claim 8 (Cancelled).

Claim 9 (Previously Presented): The laser beam machining method according to Claim 1, wherein a functional element is formed on a principle surface of the machining target, and the minute cavity is located between the principle surface and the treated area.

Claim 10 (Previously Presented): The laser beam machining method according to Claim 1, wherein the minute cavity is formed the other side of the laser light incidence, putting the treated area between them.

Claim 11 (Previously Presented): The laser beam machining method according to Claim 1, further comprising a step of cutting the machining target which is formed the minute cavity.

Claim 12 (Original): A laser beam machining method comprising:

a step in which setting a planned cutting line of a semiconductor substrate; and

a step in which irradiating laser light to the semiconductor substrate while converging the light to the inside of the semiconductor substrate, thereby forming a molten processed area in the semiconductor substrate along the planned cutting line and form a minute cavity at a predetermined position in connection with the molten processed area in the semiconductor substrate.

Claim 13 (Original): A laser beam machining method comprising:

a step in which setting a planned cutting line of a semiconductor substrate; and

a step in which irradiating laser light to the semiconductor substrate while converging the light to the inside of the semiconductor substrate, thereby forming a molten processed area in the semiconductor substrate along the planned cutting line and form a minute cavity at a

predetermined position in connection with the molten processed area in the semiconductor substrate, and the laser light is a pulse laser light which pulse width is set to 500 nsec or less.

Claim 14 (Original): A laser beam machining method comprising:

a step in which setting a planned cutting line of a semiconductor substrate; and

a step in which irradiating laser light to the semiconductor substrate while converging the light to the inside of the semiconductor substrate, thereby forming a molten processed area in the semiconductor substrate along the planned cutting line and form a minute cavity at a predetermined position in connection with the molten processed area in the semiconductor substrate, and the laser light is a pulse laser light which pulse pitch is set to 1.00 μm to 7.00 μm.

Claim 15 (Previously Presented): The laser beam machining method according to Claim 12, wherein the minute cavities are formed along the planned cutting line, each of the minute cavities are separated.

Claim 16 (Previously Presented): The laser beam machining method according to Claim 12, wherein a functional element is formed on a principle surface of the semiconductor substrate, and the minute cavity is located between the principle surface and the treated area.

Claim 17 (Previously Presented): The laser beam machining method according to Claim 12, wherein the minute cavity is formed the other side of the laser light incidence, putting the molten processed area between them.

Claim 18 (Previously Presented): The laser beam machining method according to Claim 12, further comprising a step of cutting the machining target which is formed the minute cavity.

Claim 19 (Original): A laser beam machining apparatus comprising laser light source, a mount table for mounting a machining target, and a controller for controlling relative position of the laser light source and the mount table:

wherein the controller control relative position of the laser light source and the mount table while converging the laser light to the inside of the machining target, and the controller move the laser light source and the mount table relatively along a planned cutting line,

thereby forming a treated area based on multiphoton absorption in the machining target along the planned cutting line and form a minute cavity at a predetermined position in connection with the treated area in the machining target.

Claim 20 (Original): A laser beam machining apparatus comprising laser light source, a mount table for mounting a semiconductor substrate, and a controller for controlling relative position of the laser light source and the mount table:

wherein the controller control relative position of the laser light source and the mount table while converging the laser light to the inside of the semiconductor substrate, and the controller move the laser light source and the mount table relatively along a planned cutting line,

thereby forming a molten processed area in the semiconductor substrate along the planned cutting line and form a minute cavity at a predetermined position in connection with the molten processed area in the semiconductor substrate.

Claim 21 (Original): A laser beam machining apparatus comprising laser light source, a mount table for mounting a semiconductor substrate, and a controller for controlling relative position of the laser light source and the mount table:

wherein the controller control relative position of the laser light source and the mount table while converging the laser light to the inside of the semiconductor substrate, and the controller move the laser light source and the mount table relatively along a planned cutting line,

thereby forming a molten processed area in the semiconductor substrate along the planned cutting line and form a minute cavity at a predetermined position in connection with the molten processed area in the semiconductor substrate, and the laser light is a pulse laser light which pulse width is set to 500 nsec or less.

Claim 22 (Original): A laser beam machining apparatus comprising laser light source, a mount table for mounting a semiconductor substrate, and a controller for controlling relative position of the laser light source and the mount table:

wherein the controller control relative position of the laser light source and the mount table while converging the laser light to the inside of the semiconductor substrate, and the controller move the laser light source and the mount table relatively along a planned cutting line,

thereby forming a molten processed area in the semiconductor substrate along the planned cutting line and form a minute cavity at a predetermined position in connection with the molten processed area in the semiconductor substrate, and the laser light is a pulse laser light which pulse pitch is set to 1.00 μm to 7.00 μm.

Claim 23 (Previously Presented): The laser beam machining apparatus according to Claim 19, wherein the minute cavities are formed along the planned cutting line, each of the minute cavities are separated.

Claim 24 (Original): A laser beam machined product obtained by cutting a machining target by laser beam machining, comprising:

a treated area which is modified with multiphoton absorption and formed at a portion along a principal face formed by the cutting; and

a minute cavity having an opening portion formed at a predetermined position which is located on the principal face formed by cutting and corresponds to the treated area.

Claim 25 (Original): The laser beam machined product according to Claim 24, wherein the machining target is a semiconductor substrate, and the treated area is a molten processed area.

Claim 26 (Previously Presented): The laser beam machined product according to Claim 24, wherein the minute cavities are formed along the planned cutting line, each of the minute cavities are separated.

Claim 27 (Original): The laser beam machined product according to Claim 26, wherein an interval of the minute cavities is 1.00 μm to 7.00 μm.

Claim 28 (Previously Presented): The laser beam machined product according to Claim 26, wherein the treated area is formed in a first zone along the planned cutting line, and the minute cavities are formed in a second zone separated from the first zone.

Claim 29 (Original): A laser beam machining method comprising a step of:

irradiating laser light to a machining target while converging the light to the inside of the machining target, thereby forming a treated region which includes a treated area in the machining target along a planned cutting line of the machining target and form a minute cavity region which includes a minute cavity along at least one part of the planned cutting line.

Claim 30 (Original): The laser beam machining method according to Claim 29, wherein the machining target is a semiconductor substrate, and the treated area is a molten processed area.

Claim 31 (Original): A laser beam machined product obtained by cutting a machining target by laser beam machining, comprising:

a treated region which includes a treated area which is formed at a portion along a principal face formed by the cutting; and

a minute cavity region which includes a minute cavity having an opening portion formed at a predetermined position which is located on the principal face formed by cutting.

Claim 32 (Original): The laser beam machined product according to Claim 31, wherein the machining target is a semiconductor substrate, and the treated area is a molten processed area.

Claim 33 (New): A method of manufacturing a semiconductor device formed using a laser beam machining method, the manufacturing method comprising:

irradiating laser light to a machining target, the machining target comprising semiconductor material and having a surface formed with at least one semiconductor device, while converging the light to the inside of the machining target, thereby forming a treated area based on multiphoton absorption in the machining target along a planned cutting line of the machining target, and forming a minute cavity at a predetermined position in connection with the

treated area in the machining target, to facilitate cutting of the machining target along the planned cutting line in order to provide at least one manufactured semiconductor device.

Claim 34 (New): A method of manufacturing a semiconductor device formed using a laser beam machining method, the manufacturing method comprising:

a step of setting a planned cutting line of a machining target, the machining target comprising semiconductor material and having a surface formed with at least one semiconductor device; and

a step of irradiating laser light to the machining target while converging the light to the inside of the machining target, thereby forming a treated area based on multiphoton absorption in the machining target along the planned cutting line, and forming a minute cavity at a predetermined position in connection with the treated area in the machining target, to facilitate cutting of the machining target along the planned cutting line in order to provide at least one manufactured semiconductor device.

Claim 35 (New): A method of manufacturing a semiconductor device formed using a laser beam machining method, the manufacturing method comprising:

a step of setting a planned cutting line of a semiconductor substrate, the semiconductor substrate having a surface formed with at least one semiconductor device; and

a step of irradiating laser light to the semiconductor substrate while converging the light to the inside of the semiconductor substrate, thereby forming a molten processed area in the semiconductor substrate along the planned cutting line, and forming a minute cavity at a predetermined position in connection with the molten processed area in the semiconductor

substrate, to facilitate cutting of the semiconductor substrate along the planned cutting line in order to provide at least one manufactured semiconductor device.

Claim 36 (New): A method of manufacturing a semiconductor device formed using a laser beam machining method, the manufacturing method comprising:

a step of setting a planned cutting line of a semiconductor substrate, the semiconductor substrate having a surface formed with at least one semiconductor device; and

a step of irradiating laser light to the semiconductor substrate while converging the light to the inside of the semiconductor substrate, thereby forming a molten processed area in the semiconductor substrate along the planned cutting line, and forming a minute cavity at a predetermined position in connection with the molten processed area in the semiconductor substrate, wherein the laser light is a pulse laser light which pulse width is set to 500 nsec or less, to facilitate cutting of the semiconductor substrate along the planned cutting line in order to provide at least one manufactured semiconductor device.

Claim 37 (New): A method of manufacturing a semiconductor device formed using a laser beam machining method, the manufacturing method comprising:

a step of setting a planned cutting line of a semiconductor substrate, the semiconductor substrate having a surface formed with at least one semiconductor device, with laser light while locating a light-converging point within the object; and

a step of irradiating laser light to the semiconductor substrate while converging the light to the inside of the semiconductor substrate, thereby forming a molten processed area in the semiconductor substrate along the planned cutting line, and forming a minute cavity at a

predetermined position in connection with the molten processed area in the semiconductor substrate, wherein the laser light is a pulse laser light which pulse pitch is set to 1.00 μm to 7.00 μm, to facilitate cutting of the semiconductor substrate along the planned cutting line in order to provide at least one manufactured semiconductor device.

Claim 38 (New): A method of manufacturing a semiconductor device formed using a laser beam machining method, the manufacturing method comprising:

irradiating laser light to a machining target, the machining target comprising semiconductor material and having a surface formed with at least one semiconductor device, while converging the light to the inside of the machining target, thereby forming a treated region which includes a treated area in the machining target along a planned cutting line of the machining target, and forming a minute cavity region which includes a minute cavity along at least one part of the planned cutting line, to facilitate cutting of the machining target along the planned cutting line in order to provide at least one manufactured semiconductor device.